

Application No.: 10/671,289
Amendment and Response dated July 13, 2005
Reply to Office Action of April 18, 2005
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Remarks/Arguments:

Introduction

Claims 1-9 are pending. Claims 1 and 8 have been amended to further the composition as having a viscosity greater than 3cP. Support for these amendments may be found in the specification at paragraph [0018] and originally filed claim 9. Claim 8 has also been amended to describe the recited the lower alcohol to water weight ratio. Support for this amendment may be found in the specification in originally filed claim 6. Claim 9 has been canceled. No new matter is introduced with these amendments.

Section 102 Rejections

Claims 1-4, 7 and 8 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 6,139,611 to Kovacs et al. (hereinafter "Kovacs"). Applicants respectfully traverse.

Kovacs relates to an inkjet composition in general. In column 1 as cited by the Examiner, the drop-on-demand principle is mentioned as an alternative to a continuous stream of droplets. Furthermore it is mentioned that drop-on-demand can be done in a piezo electrical way and in a thermal bubble way. There is no indication in Kovacs that the inkjet composition is specifically designed for the technique which is named in the application that is now being examined, as piezo-DOD (drop-on-demand).

As the present invention, according to the description in paragraph [0006], is directed to a specific problem relating to ink for piezo-DOD that contains a humectant, and has a specific viscosity of three centipoises or more, it should be taken into account that Kovacs is not specifically directed to piezo-DOD. This is also illustrated in example two of Kovacs where a specific Hewlett Packard printer is mentioned (HP 540C) which is a printer working according to the thermal-DOD principle. In addition, it is noted that Kovacs is not directed to an ink

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having a specific range of viscosity, let alone to the effect that viscosity has in regard of piezo-DOD. Based on the above, amended claim 1 which relates to a method for printing according to the drop-on-demand principle wherein ink drops are generated with a piezo element (thus establishing a method that should be construed as piezo-DOD) is novel over Kovacs. As explained in the summary of the present invention at paragraph [0008], the invention provides a method of piezo-DOD in which an ink composition is used that allows for a lower humectant content because the composition contains in addition lower alcohols in order to establish a viscosity of the composition that is 3cP or more. As the other method claims 2-7 are dependent of claim 1, these are also novel and contain an inventive step over Kovacs. Amended claim 8 is also novel over Kovacs because the lower alcohol to water weight ratio between 0.08 and 0.6, is not disclosed, nor the viscosity of the ink composition being greater than 3cP. These specific features of the ink composition also render an inventive step over the prior art when used in a piezo-DOD method according to the invention, for the reasons given above.

Thus, Applicants respectfully submit that independent claims 1 and 8, and all claims dependent therefrom, are novel over Kovacs because Kovacs fails to disclose each and every recited element. Reconsideration and withdrawal of the claim rejections under 35 U.S.C. §102(b) are respectfully requested.

Section 103 Rejections

Claim 5 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kovacs in view of U.S. Patent No. 5,755,862 to Gregory et al. (hereinafter "Gregory"). Applicants respectfully traverse.

As discussed above, Kovacs fails to teach or suggest, *inter alia*, an ink composition having a viscosity greater than 3cP. Similar to Kovacs, Gregory also relates to an ink composition for inkjet printing in general. This is apparent from the second paragraph of column 1 wherein all types of inkjet printing, including continuously or on-demand, thermally

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or by an oscillating piezo-crystal, are mentioned as possible methods according to the technical field. The use of an inkjet printer in general is explained at the bottom of column 5 and the top of column 6 and in claim 7. However, none of these citations are directed to the specific technique of piezo-DOD. Furthermore, Gregory fails to teach or suggest an ink composition having a viscosity greater than 3cP and fails to teach or suggest a substrate with a polymeric ink-receiving layer. Therefore, one of ordinary skill in the art is not led by the combination of the two documents to develop a method according to amended claim 1 which solves the dilemma as pointed out earlier of the need of a humectant of which the content is lowered, by using a lower alcohol in a content of 5-30 weight percent. Thus, the fact that this inventive-specific ink composition is useful for piezo-DOD according to claim 1 can even not be derived by one of ordinary skill in the art. As such, the combination of Kovacs in view of Gregory fails to teach or suggest the method of amended claim 1. As claim 5 is dependent on claim 1, claim 5 is therefore patentably distinct over Kovacs and Gregory.

Thus, reconsideration and withdrawal of the rejection of claim 5 under 35 U.S.C. §103(a) are respectfully requested because Kovacs and Gregory, individually or in combination, fail to teach or suggest the invention as presently defined by claim 5.

Claims 6 and 9 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kovacs in view of U.S. Patent No. 4,021,252 to Banczak et al. (hereinafter "Banczak"). Applicants respectfully traverse.

Banczak relates to an ink composition for piezo-DOD on metal substrates as explained in the second paragraph of column 1. The observation of the Examiner that the lower alcohol percentage in the ink compositions would be 9.5% according to column 8, lines 17-37, is not accurate, because the composition on lines 26-31 of column 8 also includes isopropyl alcohol in a content of 58 weight percent. As such, the lower alcohol to water weight ratio is 67.5/19 or 3.6:1. Please note that this is also consistent with the ink composition according to claim 1

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(column 12, lines 64-65) which specifies that the water to alcohol ratio is between 1 to 1.5 and 1 to 10 which is outside the ratio of the present application as defined in claim 6.

Further, Banczak specifically teaches that water to alcohol ratios outside of the range of 1 to 1.5 and 1 to 10 must be avoided to have acceptable ink printing properties. (See, Banczak, column 6, lines 26-31). Thus, Banczak specifically teaches away from the present invention. Therefore, one of ordinary skill in the art would not be motivated to modify Banczak to use lower alcohol:water weight ratio according to claim 6 of the present invention in piezo-DOD as defined in claim 1 of the present application. Therefore, amended claim 1 of the present application is patentably distinct over Kovacs and Banczak, individually or in combination. Also, amended claim 8 is patentably distinct over the prior art because of the incorporation of the weight ratio of lower alcohol:water as defined in claim 6, for the above reasons.

Therefore, reconsideration and withdrawal of the claim rejections under 35 U.S.C. §103(a) are respectfully requested because Kovacs and Banczak, individually or in combination, fail to teach or suggest the present invention.

Summary

Therefore, Applicants respectfully submit that independent claims 1 and 8, and all claims dependent therefrom, are patentably distinct. This application is believed to be in condition for allowance. Favorable action thereon is therefore respectfully solicited.

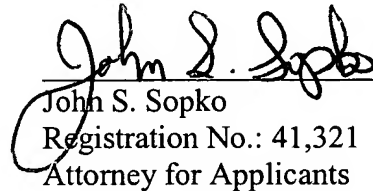
Should the Examiner have any questions or comments concerning the above, the Examiner is respectfully invited to contact the undersigned attorney at the telephone number given below.

The Commissioner is hereby authorized to charge payment of any additional fees associated with this communication, or credit any overpayment, to Deposit Account

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No. 08-2461. Such authorization includes authorization to charge fees for extensions of time, if any, under 37 C.F.R § 1.17 and also should be treated as a constructive petition for an extension of time in this reply or any future reply pursuant to 37 C.F.R. § 1.136.

Respectfully submitted,



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